FIG. 1

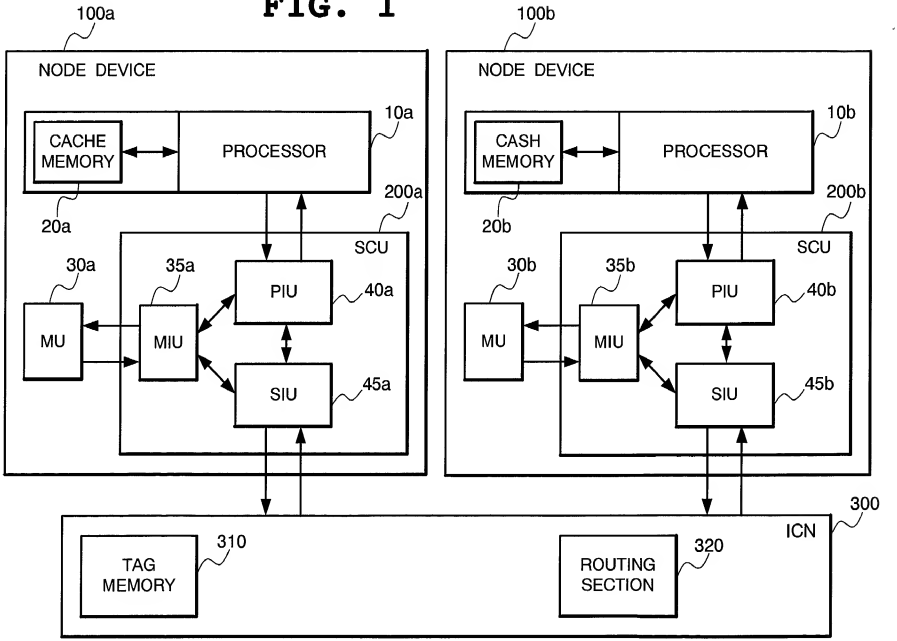

FIG. 2

TAG INFORMATION

BLOCK NUMBER	STATUS INFORMATION	NODE DEVICE NUMBER
a	U	
b	S	1 , 2
⋮	⋮	⋮
n	P	2

FIG. 3

STATUS INFORMATION	CACHE STATUS
U	CACHE DATA IS NOT FOUND IN ANY OF THE NODE DEVICES
S	DATA IN THE CACHE IS IDENTICAL TO THE DATA IN THE MEMORY UNIT AND THE SAME CACHE DATA IS FOUND IN SEVERAL NODE DEVICES
P	CACHE DATA IS FOUND IN ONE NODE DEVICE ONLY

FIG. 4

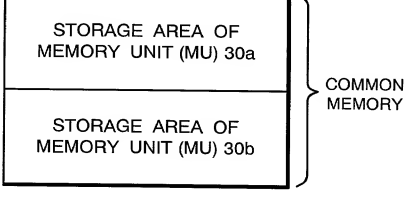

FIG. 5

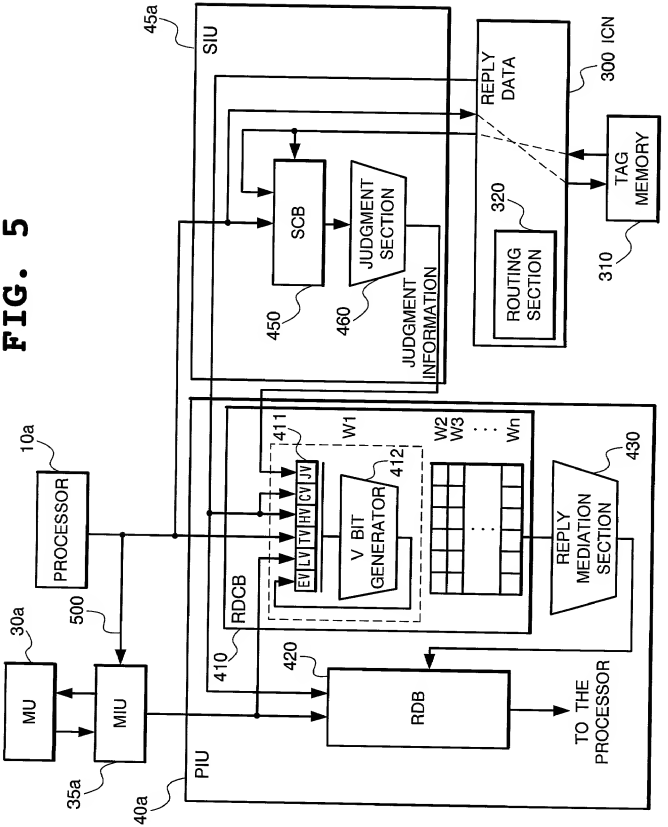
45a
SIU
REPLY DATA
300 ICN
SCB
JUDGMENT SECTION
450
460
JUDGMENT INFORMATION
320
ROUTING SECTION
TAG MEMORY
310
10a
PROCESSOR
411
W1
W2
W3
Wn
EV
LV
TV
HV
CV
JV
V BIT GENERATOR
412
RDCB
410
REPLY MEDIATION SECTION
430
500
30a
MU
MIU
35a
40a
PIU
420
RDB
TO THE PROCESSOR

FIG. 6

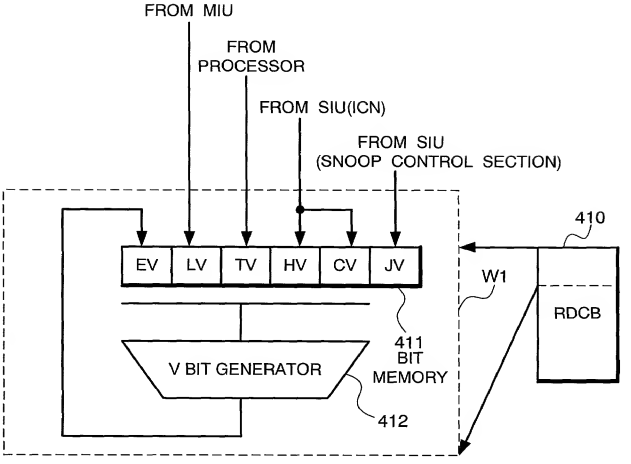
FROM MIU
FROM PROCESSOR
FROM SIU(ICN)
FROM SIU (SNOOP CONTROL SECTION)
410
EV
LV
TV
HV
CV
JV
W1
RDCB
411 BIT MEMORY
V BIT GENERATOR
412

FIG. 7

EV	REPRESENTATIVE BIT OF ENTRY SHOWING THAT THE CONDITIONS TO SEND THE REPLY DATA TO THE PROCESSOR ARE ESTABLISHED
LV	BIT SHOWING THAT THE REPLY DATA BY THE SPECULATIVE READ PATH HAS BEEN RETURNED FROM THE LOCAL MEMORY
TV	BIT SHOWING THAT A READ TYPE TRANSACTION HAS BEEN RECEIVED FROM THE PROCESSOR AND ISSUED TO THE SIU / MIU
HV	BIT SHOWING THAT THE REPLY DATA HAS BEEN RETURNED FROM THE MEMORY UNIT (MU) MOUNTED ON THE OTHER NODE
CV	BIT SHOWING THAT MODIFY DATA HELD IN THE CACHE OF THE REMOTE NODE HAS BEEN RETURNED
JV	BIT SHOWING THE SNOOP RESULT

FIG. 8

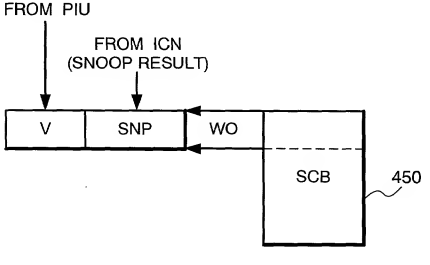

FIG. 9

V	BIT SHOWING THAT THE PROCESSOR HAS ISSUED A READ TYPE TRANSACTION AND IS WAITING FOR SNOOP PROCESSING
SNP	INFORMATION SHOWING THE SNOOP RESULT OBTAINED FROM THE INTERNAL CONNECTION NETWORK

FIG.10

CASE	LV	TV	HV	CV	JV	PROCESSING CONTENTS
(1)	1	1	0	0	MODIFY NOT FOUND	LOCAL MEMORY DATA IS SENT TO THE PROCESSOR
(2)	1	1	0	1	MODIFY FOUND	CACHE DATA IS SENT TO THE PROCESSOR AND THE LOCAL MEMORY DATA (SPECULATIVE READOUT DATA) IS ABOLISHED
(3)	0	1	1	0	MODIFY NOT FOUND	MEMORY DATA IN THE REMOTE NODE IS SENT TO THE PROCESSOR
(4)	0	1	1	1	MODIFY FOUND	CACHE DATA IS SENT TO THE PROCESSOR AND THE MEMORY DATA IN THE REMOTE NODE IS ABOLISHED

FIG.11

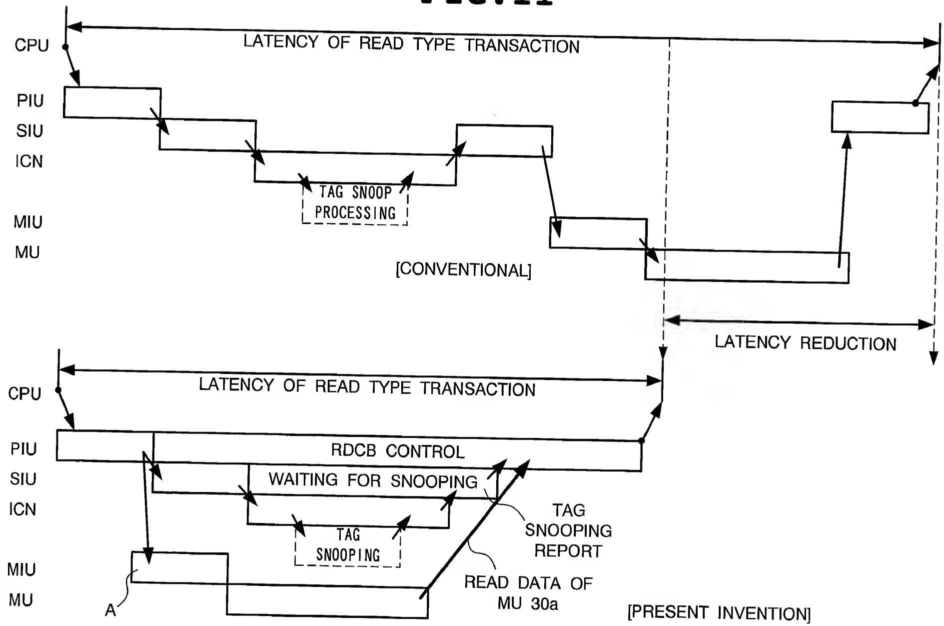
LATENCY OF READ TYPE TRANSACTION
CPU
PIU
SIU
ICN
MIU
MU
TAG SNOOP PROCESSING
[CONVENTIONAL]
LATENCY REDUCTION
LATENCY OF READ TYPE TRANSACTION
RDCB CONTROL
WAITING FOR SNOOPING
TAG SNOOPING
TAG SNOOPING REPORT
READ DATA OF MU 30a
A
[PRESENT INVENTION]

FIG. 12

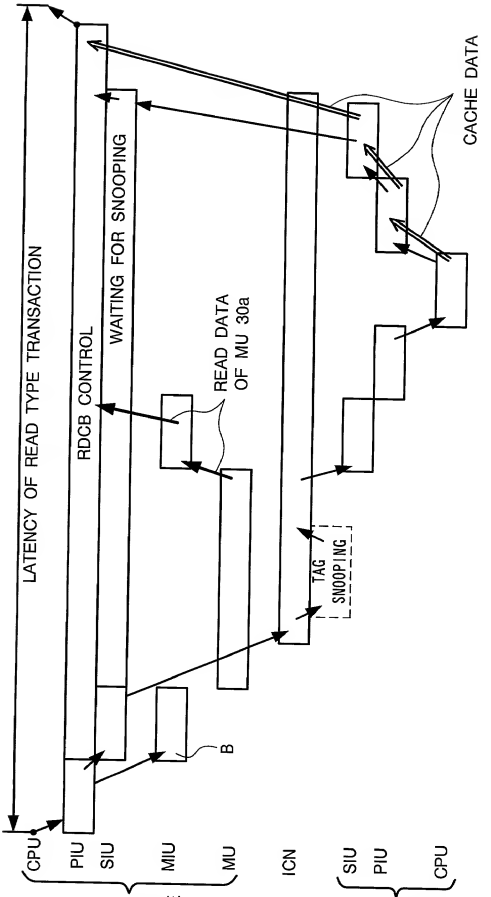
LATENCY OF READ TYPE TRANSACTION
RDCB CONTROL
WAITING FOR SNOOPING
READ DATA OF MU 30a
CACHE DATA
TAG
SNOOPING
B
CPU
PIU
SIU
MIU
MU
ICN
SIU
PIU
CPU
100a NODE DEVICE
100b NODE DEVICE

FIG.13

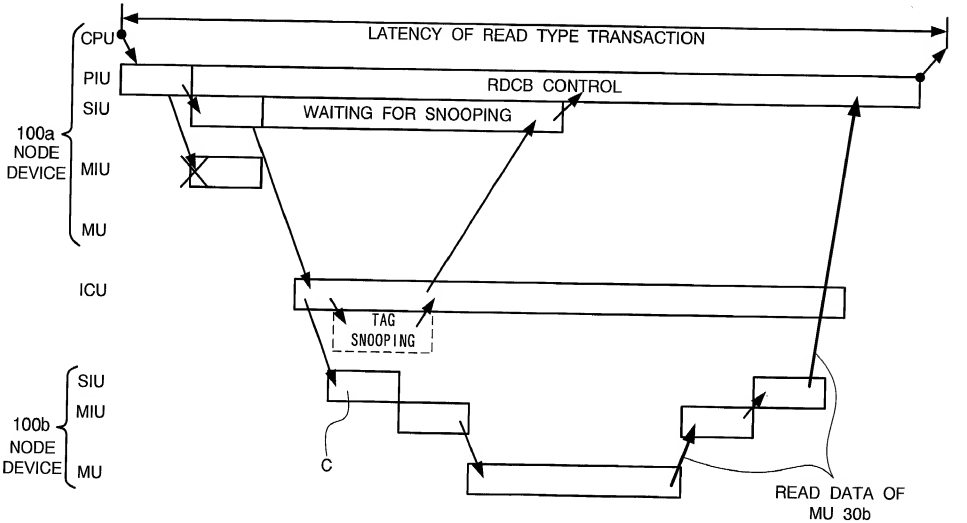

FIG.14

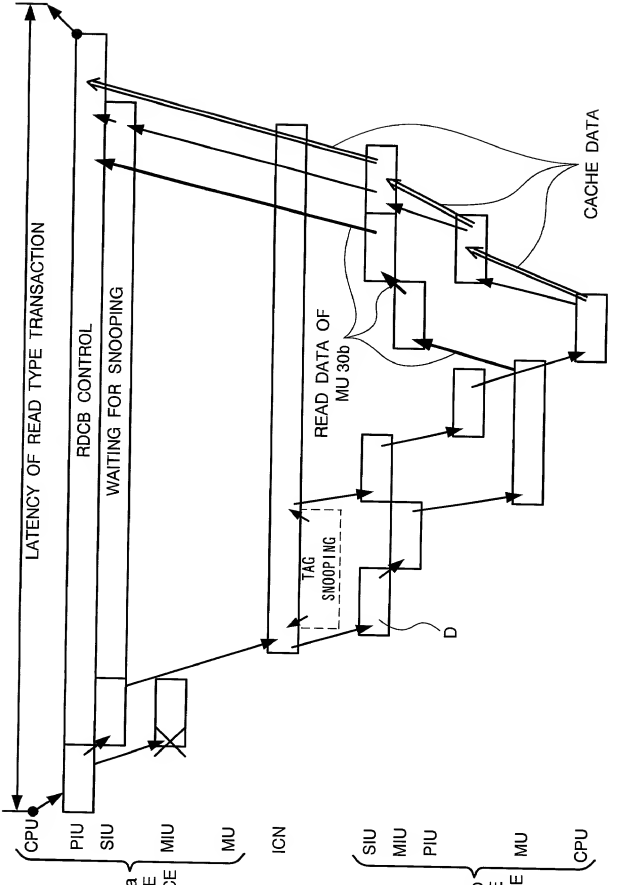

FIG. 15

BLOCK NUMBER	STATUS INFORMATION	NODE DEVICE NUMBER
a	U	————
⋮	⋮	⋮

FIG. 16

BLOCK NUMBER	STATUS INFORMATION	NODE DEVICE NUMBER
a	P	(2)
⋮	⋮	⋮

FIG. 17

BLOCK NUMBER	STATUS INFORMATION	NODE DEVICE NUMBER
b	U	————
⋮	⋮	⋮

FIG. 18

BLOCK NUMBER	STATUS INFORMATION	NODE DEVICE NUMBER
b	P	(2)
⋮	⋮	⋮

FIG.19

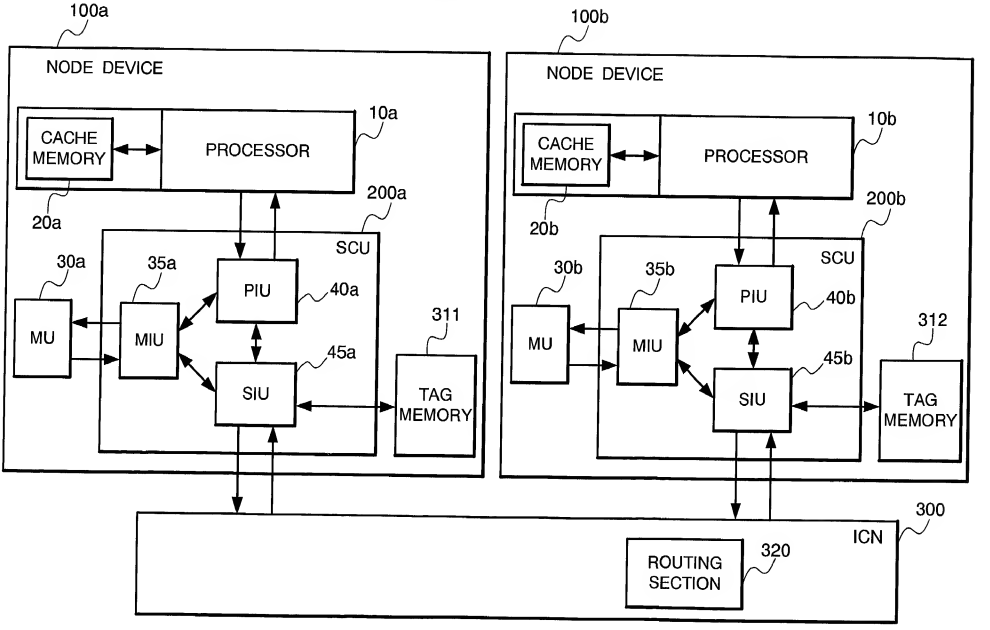
100a
NODE DEVICE
CACHE MEMORY
PROCESSOR
10a
20a
200a
SCU
30a
35a
PIU
40a
MU
MIU
311
45a
SIU
TAG MEMORY
100b
NODE DEVICE
CACHE MEMORY
PROCESSOR
10b
20b
200b
SCU
30b
35b
PIU
40b
MU
MIU
312
45b
SIU
TAG MEMORY
300
ICN
ROUTING SECTION
320

FIG.20

(a)

V	SNP1	SNP2
1		

(b)

V	SNP1	SNP2
1	SNOOP RESULT	SNOOP RESULT

FIG.21 (PRIOR ART)

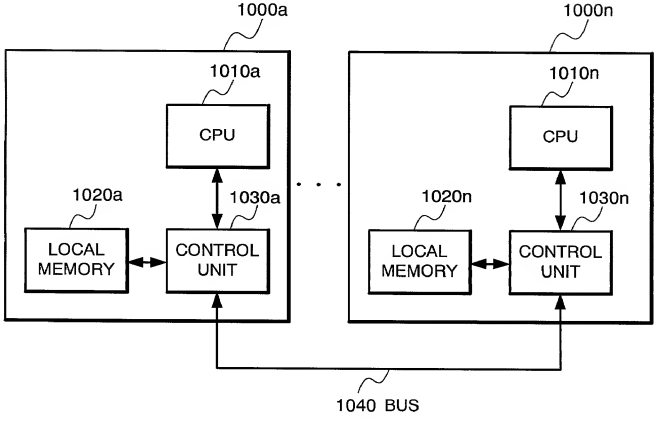

FIG.22 (PRIOR ART)